


THE EVOLUTION OF THE WORLD OF WORK: PRODUCTIVE RELATIONS AND SOCIETY

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ABSTRACT

This article seeks to understand the moments that society and the world of work have gone through, verifying the main changes and impacts generated. With industrialization, society and the world of work experienced the changes brought about by the industrial revolutions. In this vein, production models emerged and, as a consequence of social evolution, the world of work became more flexible. Technological revolutions have made it possible to change the way society communicates, especially since the emergence of the internet. The internet brought connection, integration and approximation, which enabled the transformation of work and productive relationships. As a result, the service is now provided from anywhere and with flexible schedules

Keywords: Work. Industrial Revolution. Flexibilization of Work.

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INTRODUCTION

Since the beginning of time, from his physical effort, man drew his survival from nature. At first, he did not change the outside world, he only extracted from it what was necessary to survive. When it began to act in nature in a transformative way, it was that man's work differentiated from animal work (Conceição, 2004). For Coutinho (2009), man's work refers to an individual or collective activity that is complex, dynamic, carried out in a reflective and conscious way.

The first work relationship that is reported is slave labor. However, defining when slave labor emerged is a difficult task. Its origin can be traced back to wars, when the victors imprisoned and forced the losers to work. The existence of slavery is verified in the Egyptian, Babylonian, Assyrian and Greco-Roman civilizations, among others. The predominant labor force during the Roman Empire was slave labor. The slave was considered a thing, belonging to a master (Conceição, 2004), who had the right to his life. Slave labor in general was degrading, inferior, exhausting, based on force and coercion (Borges, 1999).

With the decline of the Roman Empire, feudal society emerged, with lords and their serfs. The lord owned the land and leased it to the serfs, who were obliged to pay the rent and work for the feudal lord. The difference between slave and serf is that the latter did not belong to the feudal lord. The Black Death and the War of the Crusades decimated part of the European population, valuing labor and giving serfs the power to refuse what was imposed on them by feudal lords. With the feudal regime in decline, craft guilds were born, which, over time, gave way to manufactures, transitional structures between craft guilds and factories (Conceição, 2004). It is noted that the conceptions of work come from a process of historical creation and that they have developed and propagated as the modes of production relation, organization of society and human knowledge have evolved (Borges, 1999).

For Delgado (2006), the history of contemporary labor was influenced by the productive models that preceded capitalism. The author then proposes to discuss work, but with a focus on workers' rights. In slavery, the slave was the property of the master, he did not have the autonomy to establish any productive bond, the provision of services was mandatory and imposed by the masters. Slaves had no rights, much less freedom.

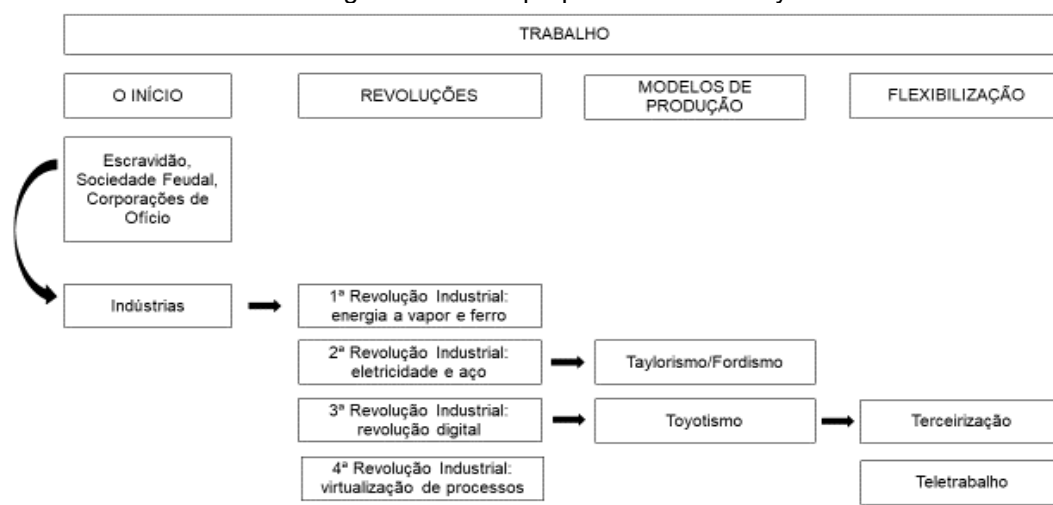
Servile labor emerged in the Middle Ages, predominantly in Western Europe. The conception of work remained negative. The feudal structure did not make trade and capital

accumulation possible, but around fiefdoms commercial practices began to emerge. The consolidation of these practices occurred in the burgos with the then emerging bourgeoisie. The feudal system entered into crisis and, in the burgos, the craft guilds began as new forms of productive organization. The workers, in the craft guilds, were subject to the masters. It was in the mid-seventeenth century and during the eighteenth century, as a result of the revolts that occurred in the first Industrial Revolution, that the personal subjection of workers to the owners of the means of production was absolutely broken (Delgado, 2006).

It is evident that, throughout the evolution of humanity, work was decisive for the maintenance of both individual and collective life. Humanity is structured according to the concept of work (Sachuk & Araújo, 2007), therefore, due to its importance and impact, it is not possible to separate work from human existence (Jacques, 1996).

Labor relations have been undergoing profound changes since the end of the nineteenth century (Dahl, 2001) influenced by the globalization of markets, increased competitiveness, technological innovations, flexibility of labor relations, among others (Tolfo & Piccinini, 2007). In this sense, the objective of this work is to understand the moments that society and the world of work have gone through, verifying the main changes and impacts generated. To elucidate what will be discussed, Figure 1 represents the proposal of a model for the study of the evolution of work.

Figure 1 - Model proposed for the study



Source: prepared by the author.

With industrialization, society and the world of work experienced the changes brought about by the industrial revolutions. In this vein, production models emerged and,

as a consequence of social evolution, the world of work became more flexible. The purpose of this work is to go through these moments, highlighting their main characteristics and the impacts generated. Next, the industrial revolutions will be presented.

INDUSTRIAL REVOLUTIONS AND WORK

The Industrial Revolution, a set of changes that occurred from the eighteenth century onwards, introduced the machine to replace manual work and began to use steam as a source of energy. As a result, the working class lost the means for production and began to sell its labor power in exchange for wages to the capitalist class, which had the means to produce and sell the goods. The capitalist system emerged in Europe in the late eighteenth and early nineteenth centuries and expanded to the world. It is an economic, political, and social system responsible for the predominance of free and subordinate labor. Labor is seen as a source of goods and services (Conceição, 2004), but also as a commodity to be traded (Borges, 1999).

The workers identified themselves because they worked in the same factory and under the same working conditions. This agglomeration boosted the workers' association, developing the labor movement, which was perfected with the formation of unions both regionally and nationally, in search of labor rights (Conceição, 2004).

Schwab and Davis (2018), when analyzing this period and these transformations called the Industrial Revolution, report that three industrial revolutions have transformed the world in the last 250 years. These revolutions changed not only industries, but the way people relate to each other and to the world. For the authors, there was a joint revolution of technology, political systems, and social institutions.

Schwab and Davis (2018) report that the First Industrial Revolution that began in the mid-eighteenth century was caused by the mechanization of spinning and weaving. And that, in the 100 years that followed, in addition to transforming existing industries, the revolution gave birth to many others, creating new systems of production, exchange and value.

The analysis carried out by Lassance and Sparta (2003) from the perspective of employment revealed that the Second Industrial Revolution, which occurred after the discovery of electricity, was marked by the exploitation of salaried labor and the alienation of the worker.

Dealing with the Third Industrial Revolution, Prieb (2007) points out that from the last quarter of the twentieth century onwards a new phase of technical-scientific development was envisioned, with the introduction of information technology, microelectronics, robotics, cybernetics, among others, once again modifying the production process.

As a result of the development of automation, the Third Industrial Revolution was characterized by mass production and consumption. Industries became gigantic institutions that employed a large contingent of workers to perform specific, segmented and repetitive tasks (Lassance & Sparta, 2003). It was not the existence of digital technologies that gave rise to the Third Industrial Revolution, but the changes that these technologies brought to the economic and social system. The Third Industrial Revolution gave a new shape to industries and changed the professional and social lives of billions of people around the world (Schwab & Davis, 2018).

The basis of Industry 4.0 is digitalization that permeates various technologies of a socializing, autonomous, mobile, modular, collaborative and transparency promoting nature. All of these elements alter the value chain of the market (Pfohl, Yahsi, & Kurnaz, 2015).

This Fourth Industrial Revolution, through technological innovation, with the interconnectivity between billions of people, provides profound transformations in the supply of products and services, causing disruptions in the value chain of companies, challenging structures and conceiving new ways of working (Schwab, 2016), a reality also for the women who are part of this work.

Schwab (2016) highlights that the way we live, work, and relate to each other is fundamentally changing. And that this is the beginning of a revolution, Industry 4.0 or the Fourth Industrial Revolution. In this current revolution, a new production model emerges, in which machines, tools, and processes will be connected to the internet through systems and interacting with each other with the ability to operate, decide, and correct themselves in an almost autonomous way. Schwab argues that in the Fourth Industrial Revolution, processes have an exponential speed, causing extraordinary expansion in the production, management and governance systems in companies.

Roblek, Mesko & Krapez (2016) report that the concept of Industry 4.0 is linked to a system of intelligent, flexible and dynamic factories equipped with autonomous sensors and machines capable of making decisions hitherto executed by humans. It also involves the production of various goods equipped with sensors and interconnected microchips that

allow a flow of communication between different instances. The concept of Industry 4.0, according to the authors, also encompasses the so-called Smart Cities, in which the economy, mobility, the environment, people, homes and governments will exchange information quickly.

Corroborating this idea of interaction between industry, politics, economy and society, Schwab (2016) highlights that where there is a possibility for Industry 4.0 to establish changes, obstacles will be faced. In the economy, the author cites impacts on the Gross Domestic Product (GDP), investments, consumption, employment, trade and inflation.

In industry, there are already numerous gains in productivity, efficiency and flexibility in the production chain. In view of the new production capacity, new business models and services will be created, as well as solutions for the areas of health, human mobility and energy efficiency (Buhr, 2015; Kagermann *et al.*, 2013; Schwab, 2016).

The challenges are related to the search for sustainable solutions and more efficiency in the use of natural resources. Impacts will also occur in the workforce related to employability with regard to the need for improvement to deal with new technologies (Schwab, 2016).

In the line of thought of Tessarini and Saltorato (2018), since 2011 the topic of Industry 4.0 has received substantial attention from government officials, entrepreneurs, universities and researchers, paving the way for a new field of research, with various facets and possibilities, approached in an interdisciplinary way by the most diverse areas of science, such as Engineering, Administration and Computing. It is noteworthy, however, that there is a certain fascination in the specialized literature for the financing technologies of Industry 4.0 and their productivity gains, leaving aside their possible social impacts. Studies that include man and work as a central theme are still scarce. Once again, as in the revolutions already experienced, the worker seems subjugated to the condition of mere participant in the midst of a variety of innovations that will substantially affect his life and his job.

According to Buhr (2015), it is essential to look more closely at the workforce aspect in this Fourth Industrial Revolution, which is not only a technological revolution, but also an economic, political, and social one in the face of the impacts of technology on people's lives. Risks and opportunities for progress and social innovation need to be identified. In view of the data presented about work, the worker and its changes, it is possible to glimpse

the developments in the world of work over time. This discussion provides a broader view of the evolution of the work.

WORK AND PRODUCTION MODELS

The Taylorist model, based on Taylor's observations of North American industries in the late nineteenth and early twentieth centuries, sought, through the theory of times and movements, to rationalize the time and yield of production (Delgado, 2006). Taylor's theory of times and movements proposed the creation of rules and standard ways of performing work. These patterns were obtained by the best possible equation between time and motion (Ribeiro, 2015). Taylor's proposal was management based on scientific and rational foundations, enabling effective control by the employer. To achieve this objective, time was controlled by segregating planning activities from execution activities. Work began to be mechanized, each worker performed only a specific type of task, being trained to perform them according to the time standard established by the management (Delgado, 2006).

The system of scientific management proposed by Taylor (2012) was based on four principles: planning, selection, control, and cooperation. In planning, there was the replacement of the criterion of the worker by the development of a science that specifies and defines how the tasks should be performed. Worker selection referred to the instruction and training of the worker to perform a certain function. The third principle, proposed by Taylor, was control. This was given by the constant supervision of the management, in order to ensure that the tasks were developed based on the scientific laws of work, thus emerging the figure of the instructor. The last principle, cooperation, valued the balanced division of responsibilities.

After the Second World War, there was a vertiginous increase in industry, especially in the central countries. Combined with the Taylorist production model already in use, the Fordist model began to be widely adopted. In his model, Ford develops the assembly line to reduce the time spent in the production process by increasing the pace of work. The remuneration of workers is now determined by the growth of productivity and production. The worker is unqualified or semi-qualified, unable to think, innovate or use his creativity (Delgado, 2006). Despite the intensification of the control of the worker and the production process, Ford did not only want to dominate the workforce, but to conquer the worker (Ribeiro, 2015).

Fordism was configured as an improvement of Taylorism, and can be characterized as an extension of scientific management. Its main contribution to the growth of large companies was the mechanism of repetitive work (Trindade, 2004). The Fordist model combined Taylor's scientific management with the modern assembly line, in addition to the standardization of production (Druck, 1999).

In Fordism, products were standardized and with little diversification. Production, consumption and even labor standards were massive. Capitalist contradictions had less weight since wages grew in favor of workers and consumption and, consequently, entrepreneurs. The State was favored with a higher collection, the increase in wages also provided the strengthening of unions (Viana, 2004). Above-average wages and benefits that were not offered until then are also characteristics of the Fordist model (Druck, 1999) that combined mass production and increasing consumption due to the wages paid (Lipietz, 1991). Raising wages was a strategy to increase consumption among the working class. This pattern of consumption was fundamental to fuel the growth of mass industry. A new lifestyle was created, with high consumption patterns, and several goods became the object of desire of the American population (Ribeiro, 2015).

But at a certain point, production starts to surpass consumption and this whole virtuous circle goes into decline (Viana, 2004). Fordism began to show signs of exhaustion at the end of the 1960s, with the fall in productivity and, consequently, the loss of competitiveness of American industry. The working class began to show resistance, triggering an increase in turnover rates, absenteeism, manufacturing defects, and a reduction in the pace of work (Druck, 1999).

One of the solutions found by the entrepreneurs was to occupy markets outside national barriers and borders. Globalization then emerged. The factories that were previously verticalized, producing the same products in repetitive gestures and with identical workers, are horizontalized. The company becomes lean, without inventories, automated. The motto becomes to outsource, to pass on everything that seems disposable (Viana, 2004). As a reaction to the crisis of the labor system and overproduction, there are changes in technological patterns, changes in organizations, in economic, social and political relations. In the organizational context, there are changes in the production processes and in the way of managing the workforce. Socially, changes influence the supply and contractual nature of jobs, in addition to the qualifications required of workers (Hirata, 1997).

The globalization of markets, the need for greater flexibility and agility in production, and the emergence of new technologies and management models led to an overcoming of the Fordist/Taylorist model of production (Borges, 1999).

We then have the Toyotist standard of production. Toyotism preaches internal control resulting from production mechanisms, prompt service and total quality throughout the production process. Companies no longer stock goods, which are produced on a smaller scale, but with a high degree of specialization. The market is what starts to define what will be produced (Delgado, 2004), in an inversion of the process of productive concentration existing in Fordism (Bihr, 1999).

Toyotism prioritized the precariousness of the hiring of the workforce. Large companies concentrated their activities in the central production nucleus, decentralizing the others, thus making it possible to reduce the number of employees and the values resulting from hiring. As a result, small and medium-sized companies emerged to subsidize large companies in the production of secondary activities (Delgado, 2004). This is the process of outsourcing and subcontracting of workers, which, for the most part, denotes a minority of professionals with good salaries and qualifications and a majority subjected to precarious employment conditions (Bihr, 1999). The workers fired from large companies started to work in small and medium-sized companies. Those who did not have qualifications or were semi-qualified were hired in a precarious manner (subcontracting and temporary hiring processes). The highly qualified had an employment contract that guaranteed some stability and some labor rights. The demand for work becomes greater than the number of jobs available (Delgado, 2004).

The Toyotism that emerged from the last decades of the twentieth century was based on a new form of production, the flexible one. A system originated in the post-war period of Japan, in the movement to reconstruct its national industry, Toyotism emerges in the 1980s as an appropriate model for productive restructuring in the capitalist West. Among its main characteristics are flexible production and investments in microelectronic-based technologies with heterogeneous groups aimed at reducing inventory and inducing a process of outsourcing work (Faria; Kremer, 2004; Flach et al, 2007).

Martinez (2018) points out that with Toyotism, companies began to dedicate themselves to their core activities with qualified workers. Instrumental services began to be provided by peripheral companies. In Brazil, according to Law No. 13,429 of March 31, 2017, the legislation allows the core activity to also be outsourced. According to the author,

in addition to outsourcing, Law No. 13,429/2017 inserted in Law 6,019 of 1974 fourth-party contracting, which is characterized by the hiring of a service company to act as an intermediary in the relationship with partner companies.

Outsourcing is a process by which a company transfers to another one or more activities carried out by directly hired employees (Dias & Silva, 2017). For Ferreira, Andrade and Moraes (2018), outsourcing is a legal relationship with a view to facilitating the work of large companies. The automobile industry is, without a doubt, one of the main representatives of the outsourced means of production, given its manufacturing structure that uses several specific industries for the production and consequent assembly of its automobiles.

The companies that adopted the Toyotist system redirected the role and posture of employees in the work environment with too much internal control aimed at rationalizing spaces, costs and obtaining total quality. In this model, teamwork and production islands emerged. Teamwork based on interdependence, sharpening competition and, antagonistically, individualism. The entire productive burden of total quality fell on the worker who was increasingly qualified and creative, but without autonomy. As a result, the last decades of the twentieth century had high rates of diseases resulting from work activity, the best known being stress. Employees begin to alter their perception of the collective, reducing their identification with class unions and increasing the ties of dependence with companies (Delgado, 2004).

FLEXIBILITY OF WORK

The flexibilization of work was an attempt to adapt labor relations to the new economic order experienced from the 1970s onwards, at a time of global restructuring of capital in the face of economic instability, policies to control inflation and rising unemployment rates (Krein, 2007). With the international crisis of 1973-1975, a moment of political and economic instability was established. The industrial sector then went through a troubled time; companies faced market saturation, economic recession and increased international competition (Mendonça, 1990).

Many companies were forced to restructure their organizational models, with the emergence at the time of variable remuneration linked to good results of the worker or organization and the flattening of the working day (Dedecca, 1999). Later, flexible

contracts, compensation of hours, home work and the extinction of time control (Karsten & Leopold, 2003; Rohm & Lopes, 2015).

In the 1990s, with the stimulus of the productive restructuring process and the relaxation of labor legislation sponsored by the State, new forms of employment contract emerged, labor flexibilization, in the form of the part-time work contract and the fixed-term employment contract, known as temporary work (Faria & Kremer, 2004).

Viegas and Nascimento (2016) conceptualize flexibilization as a need to impose malleability on the norms present in labor legislation. Flexibilization refers to the context of changes in labor standards, reducing the protection granted to workers, in addition to relativizing the rigidity of labor standards and institutes. This thought is shared by Siqueira Neto (1996), who reports the loosening and adaptation of labor rights to adapt to the productive economic reality.

Malhadas (1991), on the other hand, warns that flexibilization brings the possibility for the worker and the companies to regulate their relations, with reciprocal concessions, in order to meet the interests of each one, which Nascimento (2003) defines as being the distancing from normative rigidity. Flexibilization is the association of processes and measures with a view to modifying regulations related to the labor market and labor relations. The objective is to make these relationships less structured, in order to enable new arrangements in the face of a strong tradition of legal control (Holzmann & Piccinini, 2006).

Delgado (2006) believes that labor flexibilization corresponds to the changes that have been happening in labor contracts. These changes can lead to a precariousness of employees' rights. As an example, the author cites the new modalities of fixed-term contracts; free hiring and dismissal; flexible hours stimulating compensation and reduction of wages via collective bargaining.

Economic restructuring and the rapid introduction of new technologies, according to Silva, Silva and Gomes (2002), imposed and still impose new forms of work organization and, consequently, the diversification of labor relations. Due to this rapid transformation of the labor market, companies need to adjust. This adjustment implies diversification of activities, the emergence of new economic sectors and the reduction of industrial and traditional work. New functions emerge and others disappear quickly, generating new types of labor relations, as listed by the authors:

- a) Self-employment: the individual works on their own, having more autonomy, but with a greater workload to maintain a certain financial standard;
- b) part-time work (or reduction of working hours): practicing a working day of less than 44 hours per week, usually 30 or 26 hours per week, according to current legislation;
- c) Temporary work: fixed-term contract. It has no guarantees of stability, but favors the immediate issue of employment;
- d) work from home: means working from home. It has the advantage of flexible working hours, but with difficulty in adjusting between work and leisure time;
- e) Outsourced work: it is the transfer to third parties of part of the company's activities. It produces more jobs, but does not guarantee security regarding labor rights;
- f) Associated or cooperative work: group of self-employed people who found a company. It produces stabilization, but as the State is the intermediary of cooperatives, there is no provision in law for the subject to control the work and at the same time participate in it (Silva *et al.*, 2002).

In Brazil, the flexibilization of work gained strength in the 1990s in the face of the set of technological and organizational innovations in progress with a view to increasing flexibility and reducing labor costs (Tosta, 2008).

Regarding the flexibilization of the employment contract in Brazil today, Moraes (2018) points out that the Labor Reform that took place in 2017 inserted article 442-B in the Consolidation of Labor Laws (CLT), providing for the hiring of the self-employed. Self-employed are those who provide services of any nature to other service takers who carry out or do not exercise the same economic activity, under any type of employment contract. In these relationships, the employment relationship is not constituted, ruling out the quality of employee provided for in article 3 of the CLT.

Another issue related to flexibilization and also contemplated in the Brazilian Labor Reform is the intermittent employment contract. Garcia (2017) argues that the intermittent employment contract expressly prescribed by the Labor Reform presupposes the provision of services, through subordination, in a discontinuous manner, with alternating periods of service provision and inactivity. These periods of inactivity are determined in hours, days, or months, regardless of the type of activity of the employee and the employer.

Moraes (2018) adds that in the intermittent employment contract, inactivity time at the employer's disposal is not considered, therefore, the employer should not be remunerated. If there is remuneration for time available during the period of inactivity, the intermittent employment contract is mischaracterized (article 452-C, paragraph 2, of the CLT). After a period of one year without the employer summoning the employee, counted from the date of the contract, the last summoning or the last day of provision of services, whichever is more recent, the intermittent employment contract is terminated, by operation of law (article 452-D of the CLT).

Therefore, the flexibilization of work cannot be explained only with political and economic factors. Vasconcelos, Furtado and Pinheiro (2015) highlight the accentuated availability and speed of information, technological development, the creation of *specific software* and the expansion of internet access as motivators for the flexibilization movement. For Faria and Kremer (2004), flexibilization is part of a process of productive restructuring, which in general terms refers to the incorporation of new technologies based on microelectronics and new ways of organizing and managing work. The process of productive restructuring is inserted in a framework of deeper transformations, which involve not only the process of production of goods, but an entire social arrangement.

With the technological and social revolution experienced by postmodern society, pressures arose for changes in the work formats that were customary until then, contributing to the advent of new concepts related to flexibility, such as: locations, schedules and flexible contracts, which gave rise to telework (Cole, Oliver & Blaviesciunaite, 2014; Vasconcelos *et al.*, 2015). The next sub-item addresses telework, continuing the study of the work proposed in this article.

TELEWORKING

Going through the industrial revolutions and the main evolutions that have occurred, one can see how society has reached the current moment. It was observed, and it is still possible to notice, an information-based technological revolution, changing the way of communicating and people's lives. The emergence of the internet has brought browsers that integrate the entire world. These new technologies have transformed work and productive relations (Castells, 2007).

Technology has then brought new forms of occupation and a new meaning of work to organizations and to the individual. Not only replacing labor, but also with new forms of

work and hiring (Bertoncello & Junqueira, 2018). The constant evolution of information and communication technologies combined with the emergence of new organizational and managerial models has leveraged changes in man-work relations that were unimaginable until recently. This constantly changing scenario has made organizations look for ways to adapt, enabling workers with new ways of working and, as a consequence, new work relationships (Hau & Todescat, 2018).

This new technological conjuncture has transformed, in recent decades, social relations and the means of production. In labor relations, these transformations have changed the means of production in such a way that the employee can provide his service from any location, not having to be physically in the company (Jorge Neto & Cavalcante, 2018). This was already predicted by the literature specializing in technological change in the 1950s. At the time, it was already believed that telecommunication combined with computer technology would allow work to be transferred from the traditional office (Jones, 1958). This new way of working is called telework or remote work, distance work or *e-workplace* (Jorge Neto & Cavalcante, 2018).

Remote work or telework is an increasingly common practice, made possible by the evolution of communication and computing technologies. All this technological evolution has made society reach a stage where work no longer needs to take place in a collective and centralized environment, but can also be carried out in a decentralized structure, where projects can be managed and operationalized without the presence of team members in the same physical structure (Schleder, Gai, Oliveira & Costa, 2019).

Nogueira and Moésia (2018) point out that the concepts of telework are numerous and constantly evolving. For the authors, it consists of the work performed with the use of telematic resources for communication between employee and employer, as well as that developed physically outside the company's headquarters. And they add that, with the new technologies available, it is possible to supervise, control and account for the work performed outside the company's premises.

As characteristic elements of telework, Jorge Neto and Cavalcante (2018) present the distance activity; control through the execution of tasks; execution through computers or other computer and telecommunication equipment.

Taking into account the amount of time worked outside the home, there are different categories of teleworkers: those who work at home part-time, those who bring their work home after working hours, and those who work at home full-time (Barros & Silva, 2010),

situations experienced by the women interviewed in this thesis. Teleworkers can also be considered professionals who work in their home offices, those who work in telework centers implemented by the organization that employs them, and those who carry out their professional activity in *coworking* centers or mobile offices (Bredin, 1996).

Dos Reis (2018) states that social relationships, as well as labor relations, have been strongly impacted by the rapid advancement of technology, which makes teleworking increasingly frequent. He mentions as advantages of teleworking the flexibility of hours for the worker, the elimination of time loss in traffic, the reduction of the space used by the company, as well as the reduction of transportation expenses. However, there is a harmful face, especially for the employee, such as: loss of contact with other workers, difficulty in respecting rest time, as well as separating personal and professional life.

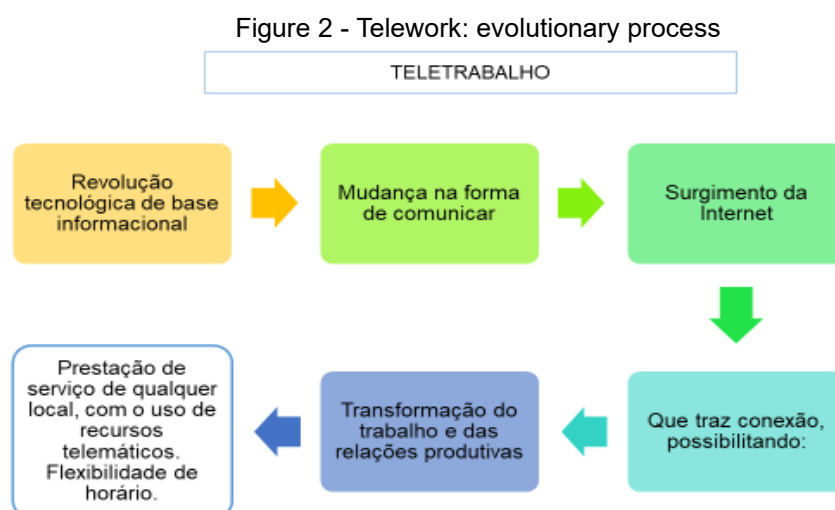
Araújo and Bento (2002) explain two aspects related to telework. The first refers to freedom, since telework is seen as a modality that allows workers to be independent in the organization of their time, making it possible to intersperse periods of production and leisure. The second strand, slavery, portrays telework as a continuous performance of routine tasks, predicts difficulty in organizing time, isolation and stress. In this sense, Hau and Todescat (2018) opine that in the telework modality, the employee needs to balance work and personal life with organization and self-discipline, otherwise, it becomes not very advantageous. Kitou & Horvath (2003) add that telework can bring benefits and harms, depending on the perspective used for analysis. On the one hand, it is understood that this can increase individual productivity if the teleworker feels more motivated to work from home organizing their own time, but at the same time it can hinder or prevent relationships and socialization. It can reduce the emission of pollutants by cars due to the fact that there is no commute, but increase the consumption of electricity in the households where the work is provided.

As the main benefits of telework for organizations, it is possible to mention those related to the reduction of physical structure costs, the rationalization of operations, increased productivity, attraction and retention of employees based on flexible schedules and time organization (Baruch, 2003; Heneman & Greenberger, 2002; Ingham, 2006).

In Brazil, Project 4,505/08 and, later, Law 12,551 of December 15, 2011, which amended article 6 of the Consolidations of Labor Laws (CLT), promoted the recognition of work performed at the employee's home or performed at a distance and equated it to work performed at the employer's premises, provided that the employment relationships were

characterized (Hau & Todescat, 2018). The Brazilian CLT began to regulate telework from Law 13. 467 of 2017, which became known as the "Labor Reform" (Brasil, 2017). For Sivoilella (2018), the insertion of telework in 2017 in the CLT is a response to a social need, since the market already adopted this practice. The CLT provides that telework is characterized by the provision of the service in a place other than the employer's premises, not constituting external work and with the use of information and communication technology. Telework must be a clause in the employment contract, in writing and also specifying the activities to be performed by the employee.

Figure 2 seeks to summarize the evolutionary process that led to telework.



Source: prepared by the author based on Castells (2007), Dos Reis (2018), Jorge Neto and Cavalcante (2018) and Nogueira and Moésia (2018).

Figure 2 shows that technological revolutions have enabled a change in the way society communicates, especially since the emergence of the internet. The internet brought connection, integration and approximation, which enabled the transformation of work and productive relationships. As a result, the provision of the service began to be carried out from anywhere and with flexible schedules (Castells, 2007; Dos Reis, 2018; Jorge Neto & Cavalcante, 2018; Nogueira & Moésia, 2018).

WORK IN BRAZIL: BRIEF HISTORY

For Carvalho and Pinheiro (2018), it should be considered that the formation of the labor market in Brazil occurred with the transition from slave labor to free labor. Free labor

began with the abolition of slavery in 1888, and also as part of the surplus of labor from Europe to Brazil. For the authors, the twentieth century marks the transition from the agrarian-export model to the urban-industrial one.

In the same sense, Viegas and Nascimento (2016) point out that after abolition there was the emergence of the employment relationship in Brazil, since the masters who previously used slave labor were forced to pay for the work. At the beginning of the twentieth century, the number of immigrants in Brazilian factories was significant and, contrary to what the ruling classes expected, immigrants did not assume a passive position in the face of the working conditions offered, since they were aware of the trade union movements and the development of the protection of social and labor rights. They began to demand better working conditions and the creation of measures to protect them. With this social pressure, driven mainly by foreign workers, the construction of Labor Law in Brazil began.

In Brazil, social and economic rights began to be affirmed in an incipient way after the 1903 Law, which allowed union organization (Miranda, 2012). But it was in the 1930s that the process of institutionalization of public labor regulation in Brazil began (Carvalho & Pinheiro, 2018). Over time, some social rights began to be guaranteed, the most striking of which was the Brazilian Constitution of 1934, which created the first major social insurance institute, in addition to instituting the Conciliation and Judgment Boards of labor relations. Several sparse norms dealing with workers' rights were issued, which led the Brazilian government, on May 1, 1943, to approve the Consolidation of Labor Laws (CLT) (Miranda, 2012).

The Consolidation of Labor Laws (CLT - Decree-Law No. 5,452, of May 10, 1943), sanctioned by Getúlio Vargas, was a great achievement of workers' rights. The CLT definitively inserted auxiliary mechanisms such as the limit on working hours and the right to annual vacation, in addition to determining the minimum wage (Moraes, 2018).

During the 1950s, during the validity of Juscelino Kubitschek's plan of goals, there was an impulse for the implementation of the Fordist model of organization and management of work in Brazil. The automakers and auto parts companies in the ABC region of São Paulo effectively implemented the Fordist model of production of goods (Alves, 2000). The implementation of Fordism in the country, however, took place in a partial way. In the central capitalist countries, the production model was supported by a social protection network that was expressed by the welfare state. In Brazil, this did not

occur, leading to a partial process of integration of workers into the labor and consumer market (Druck, 1999).

In the period between 1946 and 1964, there was the elaboration of legal instruments aimed at the creation of a democracy in Brazil. As a result, several changes were introduced in the labor legislation, such as: issues of union organization, such as the right to strike and labor protection and meeting some social demands. Despite the numerous social protection benefits created, only a small fraction of the population was covered, due to the limitations of the system (Medeiros, 2001).

Law No. 4,923, of 1965, created a permanent register of admissions and dismissals of employees, also establishing measures to assist the unemployed, through the Unemployed Assistance Fund (FAD). However, the unfolding of this law did not lead to any significant progress in terms of social protection for unemployed workers. The employee was entitled to the benefit only in cases in which the organization dismissed more than 50 workers or when a company was totally or partially closed and subject to an evaluation by the Regional Labor Office (Azeredo & Ramos, 1995).

Until 1966 there was only one job guarantee for salaried workers, the ten-year stability, which was created by the Elói Chaves Law in 1923. The law guaranteed stability to employees after 10 years of service provided, with the exception of serious misconduct committed and duly proven through an inquiry. Dismissed employees with less than 10 years of service were compensated with the amount of one month of work for each year worked. After 10 years, this indemnity had doubled (Carvalho & Pinheiro, 2018).

Over the years, it was realized that ten-year stability, in addition to costing companies dearly, did not favor employees, since they were usually dismissed before the necessary time had been completed. As a result, in 1966, during the Castelo Branco government, the Guarantee Fund for Length of Service (FGTS) was created, with the aim of protecting workers dismissed without just cause with the payment of compensation (Azeredo & Ramos, 1995). With the creation of the FGTS, employees could choose to compensate for ten-year stability or stability under the land tenure regime. The FGTS helped to make the process of dismissal of workers more flexible while representing a stimulus to turnover (Carvalho & Pinheiro, 2018).

In the 1970s, the Social Integration Program (PIS) and the Public Servant Equity Formation Program (PASEP) were created, both tax contributions paid by legal entities, with the purpose of financing payments (such as unemployment insurance) and correcting

distortions in income distribution. In 1975, the funds were unified PIS/PASEP. That same year, the National Employment System (SINE) was created, with the functions of intermediation of labor, guidance and professional qualification, in addition to the dissemination of information on the labor market for the unemployed (Carvalho & Pinheiro, 2018).

In the 1980s, unemployment insurance was created and there was also a reduction in the working day, from 48 to 44 hours, with the objective of increasing job vacancies, stimulating the growth of the economy. The Unemployment Insurance Program, funded by the Worker Support Fund (FAT), was introduced in 1986. Its objective was to promote financial assistance to unemployed workers in the formal sector who were dismissed without just cause, ensuring a basis of support and assisting in their reintegration into the labor market (Carvalho & Pinheiro, 2018). In the mid-1980s, the productive restructuring in Brazilian industries went through a moment of strong investment in microelectronics-based technologies (Faria, 1997) led by the automotive industry. These investments were aimed at the synchronization and integration of the operations of the production process (Alves, 2000).

In the 1990s, there was a deepening of the process of productive restructuring, driven by the increase in the process of globalization of capital and internationalization of markets. In addition, the neoliberal reforms implemented in the Fernando Collor government and intensified in the Itamar Franco and Fernando Henrique Cardoso governments (Faria & Kremer, 2004) must be considered as important factors. There was also an opening of the national market to imported products, which served to accelerate the pace of introduction of technological and organizational changes in the national industry. These changes sought to increase the productivity and quality of national products, in order to compete with the imported ones that were inserted into the market (Bruschini, 1998).

This deepening of the process of productive restructuring was characterized by the implementation of forms of organization and management of work inspired by the Toyotist model. In addition, it is necessary to consider the increase in investments in new technologies involving the entire production process. At this time, companies were led to reach new levels of flexibility, not restricting themselves only to the internal manufacturing space, but involving, in a more effective way, the relationship with other companies, through a vigorous process of outsourcing and subcontracting (Alves, 2000; Druck, 1999).

As a measure considered to make labor relations more flexible, the Brazilian government launched the National First Job Program (PNPE) in 2003. Created by Law 10,748/2003, which was amended by Law 10,940/2004 and regulated by Decree 5,199/2004, the program granted financial incentives to companies that hired young people, through the Worker Support Fund (FAT). The flexibility features present in the PNPE are the permission to hire for a fixed term, as long as it is for a minimum period of 12 months, and the recommendation not to replace workers, limiting the number hired by the PNPE to 20% of the total (Krein and Biavaschi, 2015).

In 2007, based on Provisional Measure 410/2007, temporary rural work was created, with the justification of encouraging the formalization of work in the field through fixed-term contracts. The employer was free to register the contract in the work card (Krein, Santos & Nunes, 2011). During the crisis of 2008 and 2009, the policy of increasing the minimum wage took place, in summary; the expansion of unemployment insurance; the movement to increase the formalization of employment; the legislation of the internship; and hiring and stimulus policies for the inclusion of the self-employed in social security. During this period, the advance of outsourcing as a way of hiring the workforce was observed. In the following years, in 2011, Law No. 12,506 ensured workers prior notice proportional to the time worked, a measure already contemplated in some collective agreements. Domestic workers, on the other hand, were guaranteed the provisional stability of pregnant women as of Law No. 12,812 of 2013 (Krein & Biavashi, 2015).

Finally, according to Carvalho, S. (2017), in 2017 Law No. 13,467, widely known as the Labor Reform, amends, creates or repeals more than 100 articles and paragraphs of the CLT.

FINAL CONSIDERATIONS

This article analyzed the evolution of the world of work, highlighting the crucial moments that transformed productive relations and society. From the first labor relations in slavery to the changes brought about by the industrial revolutions and the digitalization of work, it has become evident that work is not only an element of subsistence, but also a reflection of the economic, social, and political conditions of each era.

Productive models, such as Taylorism, Fordism, and Toyotism, were fundamental in shaping the way work is performed, as well as flexibility, which brought innovations in labor relations, but also challenges, such as the precariousness of rights and the intensification

of inequalities. The Fourth Industrial Revolution, in particular, proved to be a transformative milestone, redefining the role of the worker and the dynamics of production and consumption in an increasingly connected and digitized society.

In view of the changes exposed, relevant questions about the future of work emerge, such as the need for public policies that guarantee inclusion, the qualification of the workforce and the sustainability of labor relations in a scenario of rapid technological transformations. Future studies can deepen the social impacts of these changes, especially in the Brazilian context, contributing to the debate on the balance between innovation, productivity, and workers' rights.

REFERENCES

1. Alves, G. (2000). O novo (e precário) mundo do trabalho: reestruturação produtiva e crise do sindicalismo. São Paulo: Boitempo, FAPESP.
2. Andrade, R. L. M. M., & Moraes, F. F. (2018). A reforma das normas trabalhistas em meio à crise econômica no Brasil. *Revista Constituição e Garantia de Direitos*, 10(1), 185-201.
3. Araújo, E. R., & Bento, S. C. (2002). Teletrabalho e aprendizagem: contributos para uma problematização. Fundação Calouste Gulbenkian. Fundação para a Ciência e a Tecnologia.
4. Azeredo, B., & Ramos, C. A. (1995). Políticas públicas de emprego: experiências e desafios. *Planejamento e Políticas Públicas*, (12).
5. Barros, A. M., & Silva, J. R. G. (2010). Percepções dos indivíduos sobre as consequências do teletrabalho na configuração home-office: estudo de caso na Shell Brasil. *Cadernos Ebape*, 8(1).
6. Baruch, Y. (2003). The desert generation: Lessons and implications for the new generation of people management. *Personnel Review*, 33(2), 241-256.
7. Bertoncelo, V., & Junqueira, L. (2018). Novas formas de ocupação, do trabalho e condições. *Revista Organizações em Contexto*, 14(27), 187-210.
8. Bihr, A. (1999). Da grande noite à alternativa: o movimento operário europeu em crise. São Paulo: Boitempo.
9. Borges, L. O. (1999). As concepções do trabalho: um estudo de análise de conteúdo de dois periódicos de circulação nacional. *Revista de Administração Contemporânea*, 3(3), 81-107.
10. Brasil. (2017). Lei 13.467 de 13 de julho de 2017. Altera a Consolidação das Leis do Trabalho (CLT), aprovada pelo Decreto-Lei n. 5.452, de 1º de maio de 1943, e as Leis n. 6.019, de 3 de janeiro de 1974, 8.036, de 11 de maio de 1990, e 8.212, de 24 de julho de 1991, a fim de adequar a legislação às novas relações de trabalho. *Diário Oficial da União, Brasília, 14 julho. 2017. Recuperado de:* <http://www.planalto.gov.br/ccivil_03/_ato2015-2018/2017/lei/L13467.htm>.
11. Bredin, A. (1996). *The virtual office survival handbook*. Chicago: Wiley.
12. Bruschini, C. (2000). Gênero e trabalho no Brasil: novas conquistas ou persistência da discriminação? (Brasil 1985/95). In: M. I. B. Rocha (Org.). *Trabalho e gênero: mudanças, permanências e desafios*. São Paulo: 34 (p. 13- 58).
13. Bruschini, C. (1994a, out.). O trabalho da mulher brasileira nas décadas recentes. *Revista Estudos Feministas*. Rio de Janeiro : CIEC/UFRJ (n. especial).

14. Bruschini, C. (1998). Trabalho das mulheres no Brasil: continuidades e mudanças no período 1985-1995. Textos FCC (17), São Paulo, Fundação Carlos Chagas/DPE.
15. Buhr, D. (2015). Social innovation policy for Industry 4.0. Friedrich-Ebert-Stiftung, Division for Social and Economic Policies. Retrieved from: <<http://library.fes.de/pdffiles/wiso/11479.pdf>>.
- Carvalho, A. C. O., & Pinheiro, L. I. F. (2018). Reforma trabalhista no Brasil: avançando para o passado. Observatorio De La Economía Latinoamericana, 1, 1-16.
16. Carvalho, S. S. (2017). Uma visão geral sobre a reforma trabalhista. Boletim Mercado de Trabalho - Conjuntura e Análise nº 63. Brasília: IPEA.
17. Castells, M. (2007). Communication, power and counter-power in the Network Society. International Journal of Communication, 1, 238-266.
18. Cole, R., Oliver, A., & Blaviesciunaite, A. (2014). The changing nature of workplace culture. Facilities, [s.l.], 32(13/14), 786-800.
19. Conceição, D. T. (2004). Contratação do trabalho no sistema capitalista: das modalidades de conexão laborativa nos sistemas pré-capitalistas à fórmula empregatícia do capitalismo. In: J. R. F. Pimenta, L. O. L. Renault, M. T. Viana, M. G. Delgado, & C. P. P. Borja. Direito do Trabalho: evolução, crise, perspectivas. São Paulo: LTr (p. 93-125).
20. Coutinho, M. C. (2009). Sentidos do trabalho contemporâneo: as trajetórias identitárias como estratégia de investigação. Cadernos de Psicologia Social do Trabalho, 12(2), 189-202.
21. Dahl, R. A. (2001). Sobre a democracia. Brasília, EdUnB (230 p.).
22. Dedecca, C. S. (1999). Racionalização econômica e trabalho no capitalismo avançado. Campinas: IEUnicamp.
23. Delgado, G. N. (2006). Direito Fundamental ao Trabalho Digno. São Paulo: LTr.
24. Delgado, G. N. (2004). O mundo do trabalho na transição entre os séculos XX e XXI. In: J. R. F. Pimenta, L. O. L. Renault, M. T. Viana, M. G. Delgado, & C. P. P. Borja. Direito do Trabalho: evolução, crise, perspectivas. São Paulo: LTr (p. 126-154).
25. Dias, J. A.; Silva, T. N. da. (2017). A reforma trabalhista como mecanismo de reestruturação da economia brasileira. Meritum, revista de Direito da Universidade FUMEC, v. 12, n. 2.
26. Dos Reis, F. (2018). A reforma trabalhista e a regulação do teletrabalho. Revista Vianna Sapiens, 9(1), 17. <https://doi.org/10.31994/rvs.v9i1.349>.
27. Druck, M. G. (1999). Terceirização: (des)fordizando a fábrica - um estudo do complexo petroquímico. São Paulo: Boitempo.

28. Faria, J. H., & Kremer, A. (2004, set-out.). Reestruturação produtiva e precarização do trabalho: o mundo do trabalho em transformação. *Revista Eletrônica de Administração*, Curitiba-PR, 10(5), 1-9.
29. Faria, J. H. (1997). Tecnologia e Processo de Trabalho. Curitiba: UFPR.
30. Ferreira, M. A., Andrade, G. M. de J., Moraes, É. G. (2018) O Vigor da Terceirização: A precariedade de uns em benefício de poucos. Anais do I Congresso de Direito da FAFIC - ISSN:2316-4328
31. Flach, L. et al. (2009). Sofrimento psíquico no trabalho contemporâneo: analisando uma revista de negócios. *Psicologia e Sociedade*, Minas Gerais, v. 21. n. 2. p. 193-202.
32. Garcia, G. F. B. (2017). Reforma Trabalhista. Juspodivm: Salvador.
33. Gomes, O. (1976). *Curso de Direito do Trabalho*. Rio de Janeiro, Forense (6. ed., p. 466).
34. Hau, F., & Todescat, M. (2018). O teletrabalho na percepção dos teletrabalhadores e seus gestores: vantagens e desvantagens em um estudo de caso. *NAVUS - Revista de Gestão e Tecnologia*, 8(3), 37-52.
35. Hirata, H. (1997). Os mundos do trabalho. In: Casali, A. et al. (Org.). Educação e empregabilidade: novos caminhos da aprendizagem. São Paulo: EDUC. p. 51-58.
36. Heneman, R. L., & Greenberger, D. B. (2002) *Human resource management in virtual organizations*. Columbus: Ohio State University.
37. Holzmann, L., & Piccinini, V. (2006). Flexibilização. In: A. Cattani, & L. Holzmann. *Dicionário de trabalho e tecnologia* (p. 131-133). Porto Alegre: UFRGS.
38. Ingham, J. (2006) Closing the talent management gap. *Strategic HR Review*, 5(3), 20-23.
39. Jacques, M. G. (1996). Identidade e trabalho: uma articulação indispensável. In: A. Tamayo, J. E. Borges-Andrade, & W. Codo (orgs.). *Trabalho, organizações e cultura*. Rio de Janeiro: Associação Nacional de Pesquisa e Pós-Graduação em Psicologia (Coletâneas da ANPEPP, n. 11, p. 21-26).
40. Jones, J. C. (1957-1958). *Automation and design*, 1 a 5, 103, 104, 106, 108 e 110.
41. Jorge Neto, F. F., Cavalcante, J. Q. P. (2018). A tecnologia, o teletrabalho e a reforma trabalhista. *Revista Bonijuris*, 650, 169-176.
42. Kagermann, H., Wahlster, W., & Helbig, J. (2013). Recommendations for implementing the strategic initiative Industrie 4.0. *Final Report, Acatech*. Retrieved from: <<http://www.acatech.de/de/publikationen/stellungnahmen/kooperationen/detail/artikel/recommendations-for-implementing-the-strategic-initiative-industrie-40-final-report-of-the-industr.html>>.

43. Karsten, L., & Leopold, J. (2003). Time and management: the need for management. *Personnel Review* [s.l.], 32(4), 405-421. Doi: <https://doi.org/10.1108/00483480310477506>.
44. Kitou, E., & Horvath, A. (2003) Energy-related emissions from telework. *Environmental Science & Technology*, 37, 3467-3475.
45. Krein, J. D., & Biavaschi, M. B. (2015). Os movimentos contraditórios da regulação do trabalho no Brasil dos anos 2000. *Revista Cuadernos del Cendes*, 32(89): 47-82.
46. Krein, J. D., & Castro, B. (2015). *As formas flexíveis de contratação e a divisão sexual do trabalho*. São Paulo: Fundação Frederich Ebert.
- Krein, J. D. Santos, A. L., & Nunes, B.T. (2011, jul-dez.). Balanço do trabalho no governo Lula: avanços e contradições. *Revista da ABET*, 12(2). São Paulo: ABET/LTr.
47. Krein, J. D. (2007) *Tendências recentes nas relações de emprego no Brasil: 1990-2005*. Tese (Doutorado em Economia Aplicada) - Instituto de Economia, Universidade Estadual de Campinas, Campinas.
48. Lassance, M. C., & Sparta, M. (2003). A orientação profissional e as transformações no mundo do trabalho. *Revista Brasileira de Orientação Profissional*, 4(1-2), 13-19.
49. Lopes, C. M. S. (2006). Direito do trabalho da mulher: da proteção à promoção. *Cadernos Pagu* [online] (26), 405-430.
50. Malhadas, J. A. (1991). Curso de Direito Constitucional do Trabalho. Estudos em homenagem ao professor Amauri Nascimento. São Paulo: LTr.
51. Martinez, L. (2018) Curso de direito do trabalho. 8. ed. São Paulo: Saraiva, p. 396.
52. Medeiros, M. (2001, Dec.). A trajetória do Welfare State no Brasil: *papel redistributivo das Políticas Sociais dos anos 1930 a 1990*. Brasília: IPEA (27 p.).
53. Mendonça, A. A. (1990). *A crise econômica e a sua forma contemporânea*. Lisboa: Caminho.
54. Miranda, F. S. M. P. (2012) A mudança do paradigma econômico, a Revolução Industrial e a positivação do Direito do Trabalho. *Revista Eletrônica Direito*, 3(1), 1-24.
55. Moraes, T. M. S. de (2018, June). Impactos da reforma trabalhista (Lei 13.467/2017) para a economia brasileira e a categoria dos trabalhadores. *Revista Observatorio de la Economía Latinoamericana*.
56. Nascimento, A. M. (2003). *Iniciação ao Direito do Trabalho*. (29. ed.). São Paulo: LTr.
57. Nogueira, A. L., & Moésia, C. V. (2018) O teletrabalho e as alterações trazidas pela lei n. 13.467/2017 – reforma trabalhista. *Anais do I Congresso de Direito da FAFIC*. ISSN:2316-4328.

58. Pfohl, H-C., Yahsi, B., & Kurnaz, T. (2015). The impact of Industry 4.0 on the supply chain. *Annals of Hamburg International Conference of Logistics – HICL*. Hamburg: HICL.
59. Prieb, S. (2007). A classe trabalhadora diante da terceira revolução industrial. *Anais do 5º Colóquio Internacional MarxEngels*, São Paulo, Recuperado de: https://www.unicamp.br/cemarx/anais_v_coloquio_arquivos/arquivos/comunicacoes/gt4/sessao1/Sergio_Prieb.pdf.
60. Ribeiro, A. (2015). Taylorismo, fordismo e toyotismo. *Lutas Sociais*, 19(35), 65-79. Recuperado de <https://revistas.pucsp.br/ls/article/view/26678>
61. Roblek, V., Mesko, M. & Krapez, A. (2016, abr-jun.). A complex view of Industry 4.0. *SAGE Open*, 6(2). Retrieved from: <http://journals.sagepub.com/doi/pdf/10.1177/2158244016653987>.
62. Rohm, R. H. D., & Lopes, N. F. (2015, abr-jun.). O novo sentido do trabalho para o sujeito pós-moderno: uma abordagem crítica. *Cadernos EBAPE.BR*, Rio de Janeiro, 13(2), 332-345.
63. Sachuk, M. I., & Araújo, R. R. (2007). Os sentidos do trabalho e suas implicações na formação dos indivíduos inseridos nas organizações contemporâneas. *Revista de Gestão USP*, 14(1), 53-66.
64. Schleder, M. V. N., Gai, M. J. P., Oliveira, G. C., & Costa, V. M. F. (2019). Teletrabalho e a pesquisa acadêmica: análise da produção científica disponível em bancos de dados nacionais abertos até 2017. *Revista Administração em Diálogo*, 21(1), 81-98.
65. Schwab, K., & Davis, N. (2018). *Aplicando a Quarta Revolução Industrial*. (D. M. Miranda, trad.). São Paulo: Edipro.
66. Schwab, K. (2016). *The Fourth Industrial Revolution: what it means, how to respond*. Retrieved from: <<https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond>>.
67. Silva, D. B., Silva, R. M., & Gomes, M. L. B. (2002). O reflexo da Terceira Revolução Industrial na sociedade. *Anais do XXII Encontro Nacional de Engenharia de Produção ENEGEP*, Curitiba, PR, 23 a 25 de outubro de 2002.
68. Sivolella, R. F. (2018). Novas formas de contratação na Lei 13.467/17 e interpretação sistemático-constitucional: o teletrabalho em foco. In: C. Tupinambá, & F. R. Gomes. (org.). *Reforma trabalhista: impactos na relação de trabalho*. (1. ed., p. 405-413). Belo Horizonte: Fórum.
69. Siqueira Neto, J. F. (1996). Flexibilização, desregulamentação e o direito do trabalho no Brasil. In: C. A. B. Oliveira. *Crise e trabalho no Brasil: modernidade ou volta ao passado?* (2. ed.), São Paulo: Scritta.
70. Taylor, F. W. (2012). *Princípios da administração científica*. 8 ed. São Paulo: Atlas.

71. Tessarini, G., & Saltorato, P. (2018). Impactos da indústria 4.0 na organização do trabalho: uma revisão sistemática da literatura. *Revista Produção Online*, 18(2), 743-769. Doi: <https://doi.org/10.14488/1676-1901.v18i2.2967>.
72. Tolfo, S.R., & Piccinini, V. (2007). Sentidos e significados do trabalho: explorando conceitos, variáveis e estudos empíricos brasileiros. *Psicologia & Sociedade*, 19, edição especial, (1), 38-46.
73. Tosta, T. L. D. (2008). Antigas e novas formas de precarização do trabalho: o avanço da flexibilização entre profissionais de alta escolaridade. *Sociedade e Estado*, 23(3), 786-788.
74. Vasconcelos, P., Furtado, E., & Pinheiro, P. R. (2015, Oct.). An approach of multidisciplinary criteria for modeling alternatives of flexible working. *Computers in Human Behavior*, [s.l], 51, parte B, 1054- 1060.
75. Viana, M. T. (2004). A proteção social do trabalhador no mundo globalizado – o direito do trabalho no limiar do século XXI. In: PIMENTA, José Roberto Freire et al. *Direito do Trabalho: evolução, crise, perspectivas*. São Paulo: LTr, p. 155-183.
76. Viegas, C. M. A. R., & Nascimento, L. (2016, jul-ago.). Flexibilização das normas trabalhistas como ônus da crise econômica: o trabalhador pagará a conta? *Revista de Direito do Trabalho*, São Paulo, SP, 42(70), 105-136.